

ABSTRACT OF THE DISCLOSURE

There is provided a semiconductor device which is manufactured via steps of forming a capacitor which is obtained by forming in sequence an upper electrode, a dielectric film formed of ferroelectric material or high-dielectric material, and a lower electrode on a semiconductor substrate, then forming an interlayer insulating film on the capacitor, then planarizing a surface of the interlayer insulating film by the CMP polishing, then removing a moisture attached to a surface of the interlayer insulating film or a moisture contained in the interlayer insulating film by applying the plasma annealing using an N<sub>2</sub>O gas, and then forming a redeposited interlayer film on the interlayer insulating film.

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